



# Celtic Interconnector Project Update

Step 4  
Winter 2020-21



The current. The future.



Co-financed by the European Union  
Connecting Europe Facility



## Who are EirGrid and what do we do?

EirGrid is responsible for a safe, secure and reliable supply of electricity – now and in the future.

We develop, manage and operate the electricity transmission grid. This brings power from where it is generated to where it is needed throughout Ireland.

We use the grid to supply power to industry and businesses that use large amounts of electricity. The grid also powers the distribution network that supplies the electricity you use every day in your homes, businesses, schools, hospitals and farms.

As part of our role, we explore and develop opportunities to connect our transmission grid with grids in other countries.

## What is the Celtic Interconnector Project?

The Celtic Interconnector is a subsea link that will enable the exchange of electricity between Ireland and France.

As the state-owned electricity grid operator, EirGrid is required to explore opportunities to connect Ireland's grid with transmission grids in other countries. Doing so improves security of supply as electricity can be imported when needed. Ireland can also export electricity, for example from windfarms when the wind is blowing and domestic demand for electricity is low.

Ireland is already linked to Great Britain via two interconnectors; one linking Meath with North Wales and another linking Antrim with the west coast of Scotland.

The Celtic Interconnector will be the first direct link between Ireland and the Continental Europe electricity transmission system. It is being developed by EirGrid and its French equivalent, Réseau de Transport d'Electricité (RTE).

## Funding

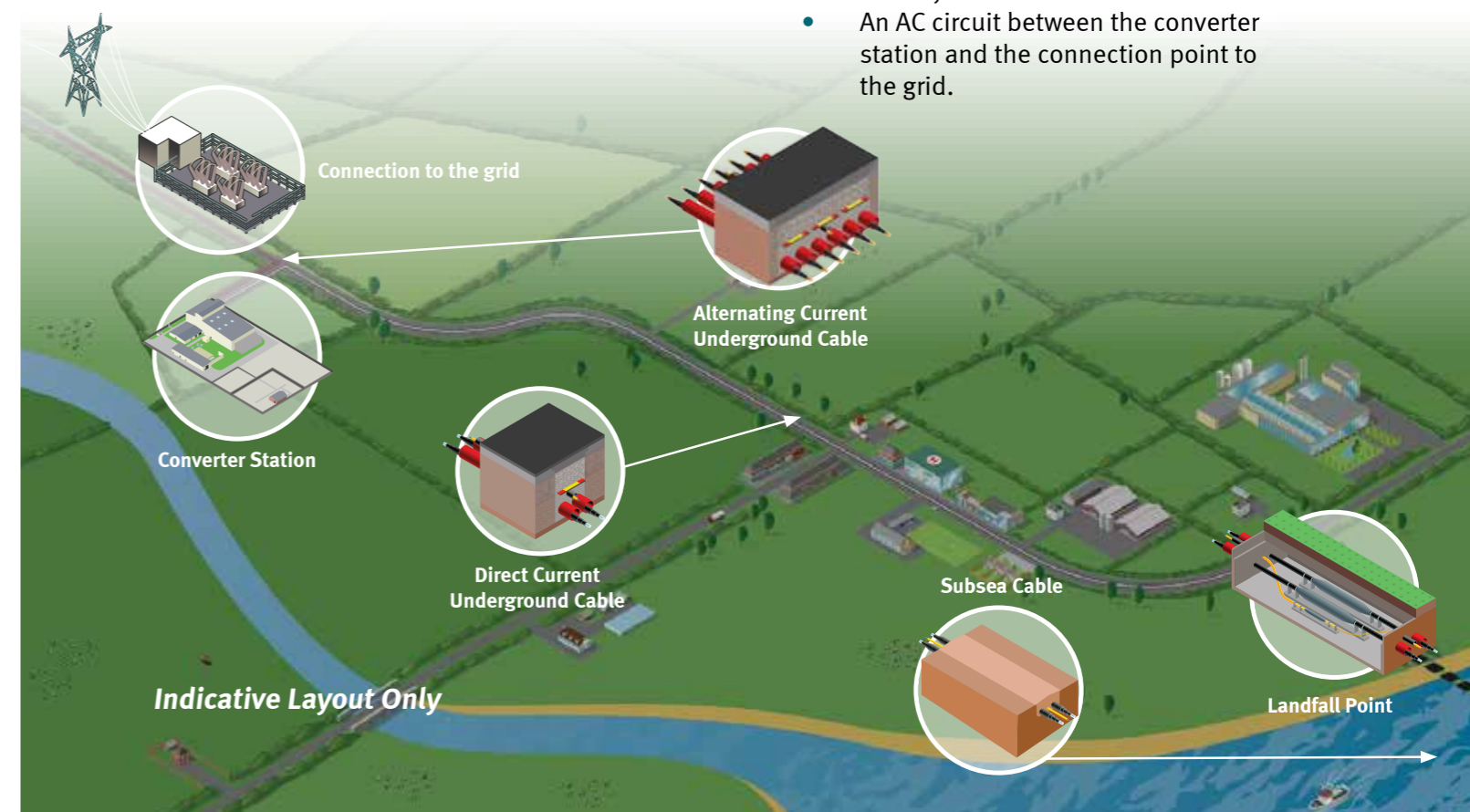
The project is funded by EirGrid and RTE with co-financing from the EU.

In 2019, the project was awarded a grant of €530.7 million from the European Commission's Connecting Europe Facility to complete the design and delivery of the Celtic Interconnector. Prior to this, the project received EU funding for a range of studies.

## The Project

The main elements of the Celtic Interconnector are:

- A submarine cable, approximately 500km in length placed on or beneath the seabed between France and Ireland.
- A landfall point where the submarine cable comes onshore.
- A High Voltage Direct Current (DC) circuit between the landfall and a converter station.
- A converter station, to convert the electricity from High Voltage Direct Current (HVDC) to Alternating Current (AC), the type that is used throughout the country and vice versa.
- An AC circuit between the converter station and the connection point to the grid.



## What has happened so far?

We started by looking for feasible connection points on the south and east coasts where the Celtic Interconnector could connect to the national grid. The connection point had to accommodate the export and import of 700 megawatts (MW) of power to and from France, enough to power approximately 450,000 homes.

The Knockraha substation in East Cork and the Great Island substation in West Wexford were identified as potential connection points.

We then conducted a high-level analysis of the impact of the interconnector on the transmission grid. This showed that the East Cork connection point would accommodate the additional power flows significantly better than West Wexford.

We undertook further technical and environmental studies.

## Where are we now?

EirGrid follows a six-step approach to planning electricity projects such as the Celtic Interconnector.

This approach guides how we engage and consult with stakeholders and communities, explore all possible options and make more-informed decisions.

The Celtic Interconnector project is now coming to the end of Step 4 of this process. Our objective in this step is to assess exactly where is the most appropriate place to build the project.

Consultation with stakeholders has had a significant influence throughout the project's development. We have continued to work closely with local people to understand how the project might affect them and how we can locate and design it to minimise local impacts.

Our Step 4 consultation ran from November 2019 to February 2020 under which we formally sought feedback on the shortlisted options for the project.

A report on this consultation was published in May 2020 and can be found at <http://www.eirgridgroup.com/site-files/library/EirGrid/Celtic-Interconnector-Step-4-Consultation-Report.pdf>

### What we consulted on:

- Landfall location
  - Claycastle Beach, Youghal
- Converter Station Sites
  - Ballyadam
  - Knockraha
  - Kilquane (Meeleen)
- Cable Routes

In addition, routes for the underground electricity cables were proposed for each of the options.

Over 1,000 submissions were received online, by post, email and delivered directly to our offices during the consultation.

We would like to thank all the communities, organisations, groups and individuals who took the time to take part in the consultation. The feedback provided useful information about the areas shortlisted for the converter station, the landfall location and the cable routes.

## The Converter Station Sites

### Ballyadam

This site is located on property owned by the Industrial Development Authority (IDA). It is located between Carrigtwohill and Midleton, to the north of the N25 Cork to Waterford road and south of the Cork to Midleton rail line.

Since the publication of the Step 4 Project Update Document earlier this year, studies and assessments have focused on the Ballyadam site. The site is located 10 kilometres by road from the Knockraha substation. The nearest residence to the site is located approximately 120 metres to the north.

### Knockraha

This site is adjacent to and east of the Knockraha station. Some temporary road closures may be required between this site and the north west of Midleton. No significant additional equipment would be needed at either end of the AC cable linking it to the substation.

This site is in a rural setting with established electricity transmission infrastructure. However, this site performs poorly from a noise and visual impact perspective due to its elevated and exposed location.

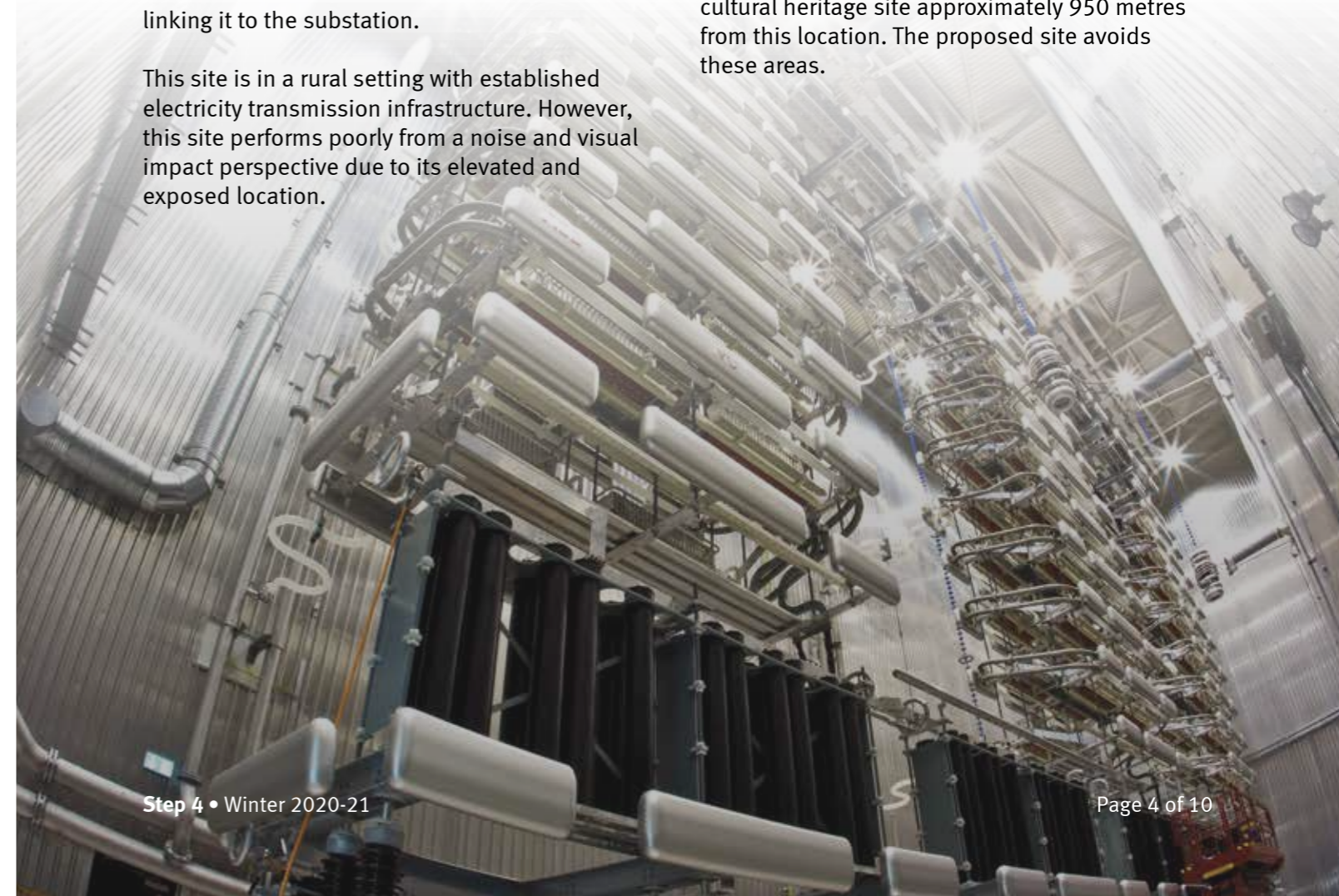
### Kilquane (Meeleen)

This site is to the east of a commercial forest and is approximately two kilometres straight line distance north of the Knockraha station.

The short distance between the site and the substation would facilitate a cross-country route for the AC connection, and so could avoid much of the disruption of routing this cable along the road.

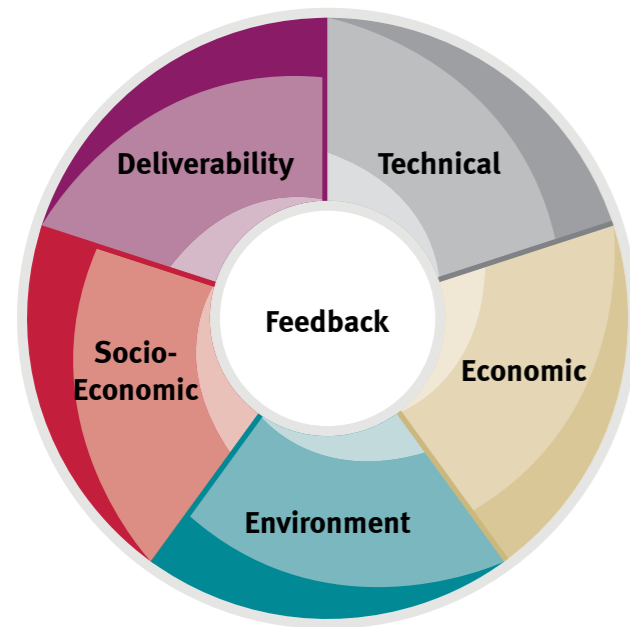
The site benefits from a high degree of natural screening due to a combination of the mature forest plantation. The landscape here also provides natural noise attenuation. There are no properties within 500 metres of the centre of the site and nine properties within one kilometre.

Several respondents pointed out that there was a historical site in this area. Known as "The Rea", it was an execution site and burial ground in the War of Independence. There is also another cultural heritage site approximately 950 metres from this location. The proposed site avoids these areas.



# Evaluation of Converter Station Sites

## Assessment Criteria



### Technical

Given that both the Knockraha and Kilquane (Meeleen) are located close to Knockraha substation, they perform better than Ballyadam site in terms of technical performance.

Ballyadam needs additional equipment at each end of the AC cable due to its longer distance from the substation.

### Economic

Knockraha and Meeleen are better performing options, largely due to the increased design complexity associated with Ballyadam and the increased length of cable required to connect Ballyadam and Knockraha. The AC cable is significantly more expensive per kilometre than the DC option.

### Environmental

Ballyadam presents environmental challenges that mainly relate to karst features and calcareous grassland. (Karst landscapes may have sinkholes, caves, enclosed depressions, disappearing streams, springs and sinkholes.)

Ballyadam is also located within an urban area and the surrounding receiving environment is subject to change in terms of its sensitivity.

Substantial road upgrades would be required at Kilquane (Meeleen) to provide construction phase access to the site.

### Socio-Economic

Consultation feedback has demonstrated strong local concerns relating to the siting of the converter station at either Knockraha or Kilquane (Meeleen). Concerns relating to noise and visual impacts have been raised by the local community.

### Deliverability

Access for construction traffic for Ballyadam and Knockraha is similar. It is likely that a substantial upgrade of the local road network would be required to provide construction phase access to Kilquane (Meeleen), either through the Kilquane commercial forest or via local roads to the east.

Knockraha and Kilquane (Meeleen) are better performing options due to the greater length of DC cable as opposed to AC cable along very narrow roads, ground conditions, live railway crossings and increased design complexity associated with the characteristics of the Ballyadam site.

## Step Four Consultation

The Step Four consultation report was published in May 2020, reflecting the views contained in the 1047 responses.

There were a number of issues that featured throughout the responses:

- Noise.
- Health and safety.
- Visual impact and light pollution.
- Impact on the community and the community fund.
- Impacts on local water quality.
- Recreational land use, ecology and wildlife.
- History and heritage.
- Traffic and the road network.

There was support for additional assessment works at Ballyadam, with a number of respondents supporting it as the most appropriate location for the converter station, given the industrial and commercial activity in the area.

Feedback was also received from both local and national elected representatives who also recommended that full consideration should be given to Ballyadam.

The consultation feedback supported our decision that the Ballyadam site warranted more detailed site investigations.

## Step Four Decision Making

We have considered all of the information available to us, including local feedback and knowledge.

Consultation is a critical aspect of the assessment process, along with deliverability, technical, economic, environmental and socio-economic assessment criteria. Based on this we have now made some important decisions.

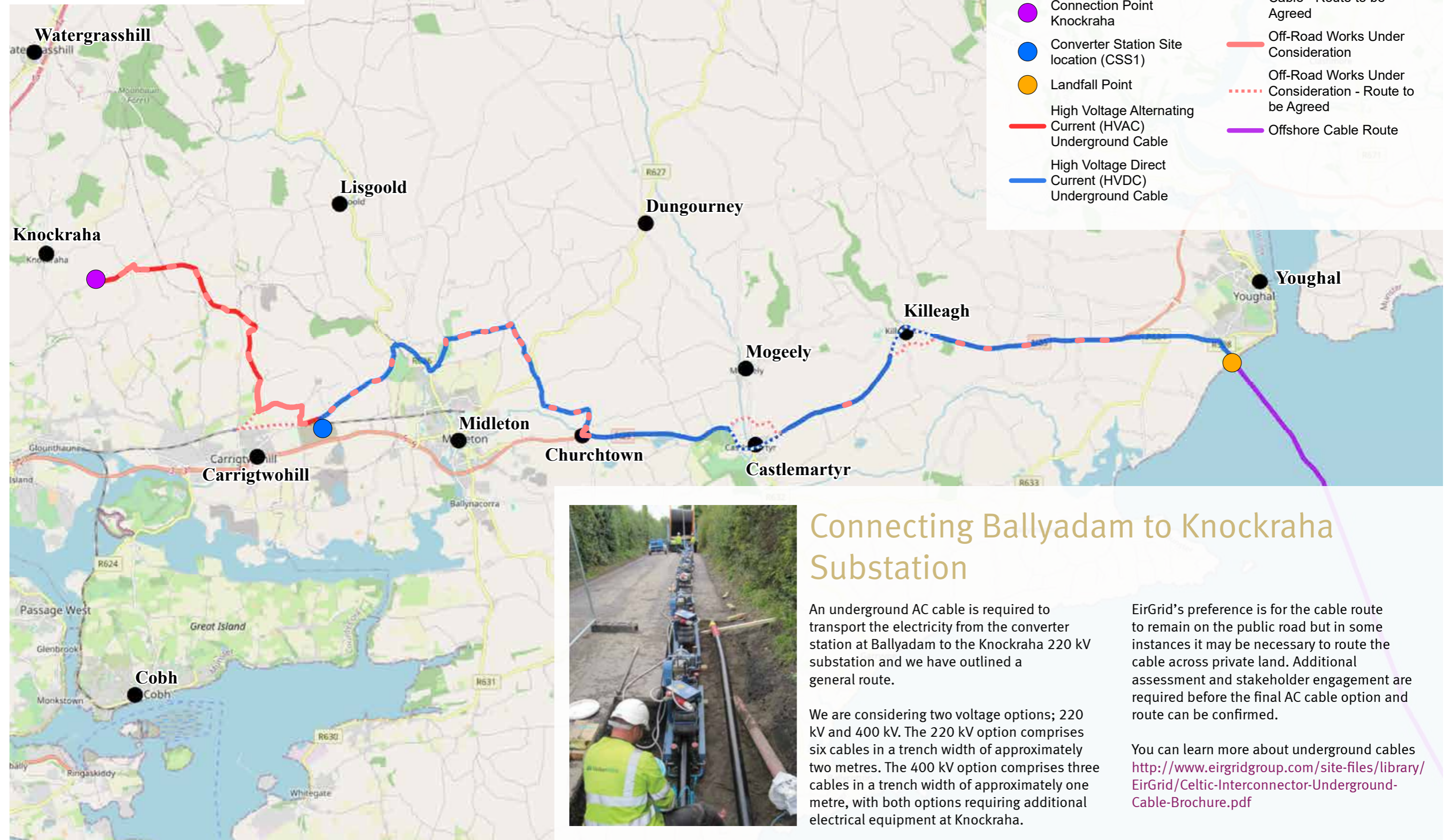
## Best-Performing Converter Station Site

Over the past number of months, focused site assessments have been carried out at Ballyadam. Coupled with earlier studies and previous site investigations in the area, we have now identified a feasible location within Ballyadam for the converter station.

These assessments and investigations at Ballyadam have confirmed that, while the site is complex from a technical and environmental point of view, such challenges can be addressed and overcome by good siting and development design, and the implementation of environmental mitigation measures.

Taking into consideration the constraints particular to each site, Ballyadam has been identified as the best performing option for the converter station site. It will be brought forward as the best-performing converter station site to Step Five of the project, the planning process.

# Project Route



## Connecting Ballyadam to Knockraha Substation



An underground AC cable is required to transport the electricity from the converter station at Ballyadam to the Knockraha 220 kV substation and we have outlined a general route.

We are considering two voltage options; 220 kV and 400 kV. The 220 kV option comprises six cables in a trench width of approximately two metres. The 400 kV option comprises three cables in a trench width of approximately one metre, with both options requiring additional electrical equipment at Knockraha.

EirGrid's preference is for the cable route to remain on the public road but in some instances it may be necessary to route the cable across private land. Additional assessment and stakeholder engagement are required before the final AC cable option and route can be confirmed.

You can learn more about underground cables <http://www.eirgridgroup.com/site-files/library/EirGrid/Celtic-Interconnector-Underground-Cable-Brochure.pdf>

# Celtic Interconnector Community Fund

During the Step 4 consultation, which ran from November 2019 to February 2020, we asked for feedback on how a community fund can be best applied among East Cork communities affected by the Celtic Interconnector. We would like to thank you for the numerous helpful suggestions and ideas that we received.

The Celtic Interconnector community fund will be an enhanced scheme that consists of:

1. General community grants fund to assist in improving facilities and education for all ages;
2. Sustainability fund to support transition to sustainable communities; and
3. Biodiversity fund to ensure a net biodiversity contribution resulting from the infrastructure.

We will confirm the full and enhanced value of the scheme and establish a Celtic Community Benefit Steering Group once the project has received full planning permission.

The steering group will lead and shape the community benefit scheme, the group membership will include local community members from the communities impacted by the project. It will be supported by an independent chairperson and a fund administrator.

The funds for the scheme will be released in three phases as milestones are reached – when construction commences in 2023; when powerlines are being laid underground in 2025 and; when the project is fully energised in 2027. This ensures a long term benefit for Celtic Communities.



# What Happens Next?

**Step 1** How do we identify the future needs of the electricity grid?

**Step 2** What technologies can meet these needs?

**Step 3** What's the best option and what area may be affected?

**Step 4** Where exactly should we build?

**Step 5** The planning process

**Step 6** Construction, energisation and benefit sharing

## Step 5 At a glance

### What's happening?

The Celtic Interconnector comprises Strategic Infrastructure Development for the onshore elements in Ireland; as such a planning application will be prepared for submission directly to An Bord Pleanála. For the Irish offshore element of the project, a foreshore licence application will be submitted to the Department of Housing, Local Government and Heritage.

### How long will this take?

We expect to submit the planning files in spring 2021 and would anticipate a final planning decision by spring 2022.

### What will happen next?

The planning and foreshore licence applications will include preparation of environmental and ecological appraisals and reports. Engagement will continue throughout the remaining steps of the project.

Once the applications have been submitted, the project enters a phase of statutory consultation. This allows members of the public to make submissions regarding the project to either An Bord Pleanála or the Department of Housing, Local Government and Heritage.

If successful, it is anticipated that in 2022 there will be a final decision made to undertake the project, and the project would move into the construction phase in 2022 and then go live in 2026.

### How Can I Stay Informed?

This project is of strategic national importance and of interest to a wide range of stakeholders. Our Community Liaison Officers will continue to make themselves available as the project evolves.

You can contact them directly on the numbers available in this brochure, register for updates by emailing [celticinterconnector@eirgrid.com](mailto:celticinterconnector@eirgrid.com) and stay up to date by referring to [www.eirgrid.ie/celticinterconnector](http://www.eirgrid.ie/celticinterconnector)

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